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EXAMINER	
TON, ANTHONY T	

ART UNIT	PAPER NUMBER
2661	2

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,152	BISHER ET AL.	
	Examiner	Art Unit	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the **modulator 505** as described in the specification in **page 14** lines 10, 11, 15, 19, and 25-26; in **page 15** lines 4, 6 and 18; and in **page 19** line 5. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "**102**" and "**21**" have both been used to designate a **HEADEND** in **Fig.1**.

Examiner suggests deleting the character "**HEADEND 102**" at the top of Fig.1 for not confusing with the character "**HEADEND 21**" as described in the specification.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. The Applicant claimed the following subject matters in **lines 9-12 of Claim 12**: "**at least one packet handler each coupled to the multiplexer**, wherein each of the at least one packet handler receives and provides the multiplexed output data stream", and "**a processor coupled to the multiplexer and the at least one packet handler** for receiving and providing information regarding the plurality of input data streams". However, such **at least one packet handler each coupled to the multiplexer,** and such **a processor coupled to the multiplexer and the at least one packet handler** could not be found in any figure of the drawings. Therefore, the **at least packet handler, coupled,** and **multiplexer** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:

Term "**an MPEG**" in page 4 lines 9 and 11, in **page 5** line 6, in **page 7** line 21, and in **page 8** lines 1 and 7 is not proper.

Examiner suggests changing this term to "**a MPEG**".

Appropriate correction is required.

Claim Objections

5. **Claims 2, 5, 12 and 18** are objected to because of the following informalities:

a) **In Claim 2**: Term "the plurality of data streams" in lines 1-2 is not appropriate with "a plurality of input data streams" as recited in Claim 1.

Examiner suggests changing this term to "the plurality of **input** data streams".

b) **In Claim 5**: Term "the multiplexed data stream" in line 4 is not appropriate with "a multiplexed output data stream" as recited in Claim 1.

Examiner suggests changing this term to "the multiplexed **output** data stream".

c) **In Claim 12**: Term "the **lat** least" in line 15 is misspelling.

Examiner suggests changing this term to "the **at** least".

d) **In Claim 18**: Term "**an MPEG**" in line 2.

Examiner suggests changing this term to "**a MPEG**".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of **the second paragraph** of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. **Claims 1-18** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) **Claim 1** recites the limitation "**the data rate**" in line 6. There is insufficient antecedent basis for this limitation in the claim.

b) **Claims 1** and **8** in lines 9-10 and **Claim 12** in lines 20-21 recite the limitation "if one of the plurality of input data streams is exceeding its maximum data rate, **dropping packets from the multiplexed output data stream**". It is not clear what is meant by the limitation "**dropping packets from the multiplexed output data stream**". Are the packets dropped at the input Queues or at the output of the multiplexer?

c) **Claim 3** recites the limitation "**wherein a packet is dropped only as long as the one of a plurality of input data streams is exceeding its maximum data rate**" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

d) **Claim 8** recites the limitation "**the data rate**" in line 6. There is insufficient antecedent basis for this limitation in the claim.

e) **Claim 12** recites the limitation "**the data rate**" in line 16 and line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 1-3, 5 and 6** are rejected under 35 U.S.C. 102(e) as being anticipated by **Fawaz et al** (US Patent Application Publication No. **2003/0,133,406**).

a) **In Regarding to Claim 1**: **Fawaz disclosed** in a system for multiplexing a plurality of input data streams and providing a multiplexed output data stream, each of the plurality of input data streams including a plurality of packets identified by packet identifiers *(see Fig.6 and the source and destination identifier of the packet in section [0051] in page 54)*, a method for dropping packets from at least one of the plurality of input data streams, comprising the steps of:

receiving input defining a maximum data rate for each of the plurality of input data streams (*see w(1)...w(n) in Fig.3 and section [0007] in page 1: in which, the R(i) (i=1 to N) is considered as a maximum data rate for each of the plurality of input data Ds1-DsN*);

determining the data rate associated with each of the plurality of input data streams *(see section[0092] in page 7: whether the network can still support the rate requirements of all the Service Level Agreements "SLAs")*;

determining whether one of the plurality of input data streams is exceeding its maximum data rate *(see section[0080] in page 6: a QoS Node in Fig.8 provides at least a minimum*

bandwidth for each SLA (input data stream). Still, the bandwidth provided is permitted to exceed the minimum, which could cause congestion in the input queues of other QoS Nodes);

if one of the plurality of input data streams is exceeding its maximum data rate, dropping packets from the multiplexed output data stream, the dropped packets corresponding to a predetermined packet identifier associated with the input data stream that is exceeding its maximum data rate *(see sections[0070] – [0072] in page 6: In accordance with SLA Early Discard, each SLA-k (k=1 to N) is assigned some integer weight M(k) (hence predetermined packet identifier, when a packet of SLA-k arrives at the QoS Node, the packet is accepted into the queue only if the number of packets for a particular SLA (one of the input data streams) in queue is less than M(k). If the number of packets in the queue for that particular SLA has reached or exceeded M(k). In ATM, packets are discarded solely on the basis of the source they are form, and regardless of whether other resources are required by other data streams, packets are discarded upon reaching a threshold for that source during a given time interval. In contrast, in this present, the packets are only discarded if they exceed a percentage of the aggregate queue (hence if one of the input data streams is exceeding its maximum data rate, drop the packets corresponding to the packet identifier associated with the input data stream)).*

b) **In Regarding to Claim 2**: **Fawaz further disclosed** wherein, subsequent to determining whether one of the plurality of input data streams is exceeding its maximum data rate, the steps further comprise:

reclassifying the predetermined packet identifier from normal priority to low priority within a priority table *(see section[0080] in page 6: Alternately, the congested QoS Node can inform the source QoS Node to serve the aggregate SLA's at a lower rate).*

c) **In Regarding to Claim 3**: **Fawaz further disclosed** wherein a packet is dropped only as long as the one of a plurality of input data streams is exceeding its maximum data rate, and

further comprising the steps of: determining if any packets are being dropped; and if packets are not being dropped, and if a predetermined time has passed, changing any predetermined packet identifiers in low priority back to normal priority *(see section[0080] in pages 6-7: When congestion does occur on a QoS Node, the congested QoS Node sends a STOP message to the upstream QoS Node indicating that the upstream QoS Node should stop transmitting. After some time, the queue at the congested QoS Node empties and the now un-congested QoS Node informs the source QoS Node to start transmitting again).*

d) **In Regarding to Claim 5**: **Fawaz further disclosed** the method further comprising the steps of: determining when the one of the plurality of input data streams is no longer exceeding its maximum data rate; and transmitting all packets in the multiplexed data stream *(see section[0080] in pages 6-7: After some time, the queue at the congested QoS Node empties and the now un-congested QoS Node informs the source QoS Node to start transmitting again).*

e) **In Regarding to Claim 6**: **Fawaz further disclosed** the method further comprising the steps of: establishing a set cycling time for repeating the method steps and again determining whether one of the plurality of input data streams is exceeding its maximum data rate *(see section [0014] in page 2: The procedure is repeated for data streams Ds2,..,DsN with the corresponding numbers W(2), D(2),.., W(N), D(N). The cycle then repeats starting with Ds1, but W(1) is replaced with W(1)-D(1). Hence, W(1)-D(1) bits are transmitted instead of W(1). If there are additional bits remaining in a packet, then those D'(1) additional bits are sent. The*

procedure is again repeated for Ds2,..,DsN in a similar manner. When the procedure returns again to Ds1, W(1)-D'(1) will replace W(1)).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. **Claims 4, 7, 8-12, 15, 16 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fawaz et al** (US Patent Application Publication No. **2003/0,133,406**) in view of **Bigham et al** (US Patent No. **5,544,161**).

a) **In Regarding to Claims 4 and 7**: **Fawaz and Bigham disclosed** all aspects of these claims as set forth in claim 1.

Fawaz failed to explicitly disclose wherein the predetermined packet identifier is determined by: identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams as recited **in Claim 4**; and

wherein the input data streams are MPEG data streams as recited in **Claim 7**.

Bigham clearly disclosed such identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams *(see Fig.3: block 142);* and such MPEG data streams *(see col.7 line 66- col.8 line21: flexible MPEG addressing of incoming data streams).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of the MPEG data streams throughout the network of Fawaz, as taught by Bigham for distributing video services over a greater serving area, **the motivation being** to provide video data to subscribers more efficiently.

b) **In Regarding to Claim 8**: **Fawaz disclosed** in a system for multiplexing a plurality of input data streams and providing a modulated output data stream, each of the plurality of input data streams including a plurality of packets identified by packet identifiers, a method for dropping packets from at least one of the plurality of input data streams, comprising the steps of:

receiving input defining a maximum data rate for each of the plurality of input data streams (*see w(1)...w(n) in Fig.3 and section [0007] in page 1: in which, the R(i) (i=1 to N) is considered as a maximum data rate for each of the plurality of input data Ds1-DsN*);

determining the data rate associated with each of the plurality of input data streams *(see section[0092] in page 7: whether the network can still support the rate requirements of all the Service Level Agreements "SLAs")*;

determining whether one of the plurality of input data streams is exceeding its maximum data rate *(see section[0080] in page 6: a QoS Node in Fig.8 provides at least a minimum bandwidth for each SLA (input data stream). Still, the bandwidth provided is permitted to exceed the minimum, which could cause congestion in the input queues of other QoS Nodes)*;

if one of the plurality of input data streams is exceeding its maximum data rate, dropping packets from the multiplexed output data stream, wherein the dropped packets correspond to a

predetermined packet identifier associated with the data stream that is exceeding its maximum data rate *(see sections[0070] – [0072] in page 6: In accordance with SLA Early Discard, each SLA-k (k=1 to N) is assigned some integer weight M(k) (hence predetermined packet identifier), when a packet of SLA-k arrives at the QoS Node, the packet is accepted into the queue only if the number of packets for a particular SLA (one of the input data streams) in queue is less than M(k). If the number of packets in the queue for that particular SLA has reached or exceeded M(k). In ATM, packets are discarded solely on the basis of the source they are form, and regardless of whether other resources are required by other data streams, packets are discarded upon reaching a threshold for that source during a given time interval. In contrast, in this present, the packets are only discarded if they exceed a percentage of the aggregate queue (hence packets are dropped from the output multiplexed output data stream));*

multiplexing the plurality of input data streams and providing a multiplexed output data stream *(see section[0006] in page 1: referring to the illustration of FIG. 1, to multiplex N data streams using TDM, the first stream is transmitted for T(1) seconds, then the second stream for T(2) seconds, and so on until the N-th stream is transmitted for T(N) seconds. The cycle then repeats starting again with the first stream);*and

Fawaz failed to explicitly disclose a modulator modulating the multiplexed output data stream with a radio frequency (RF) signal for further transmission.

Bigham clearly disclosed such a modulator modulating the multiplexed output data stream with a radio frequency (RF) signal for further transmission *(see Fig.3: blocks 136', 136, 152 and 150; and RF).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a modulator modulating the multiplexed output data stream with a radio frequency (RF) signal for further transmission throughout the network of Fawaz, as taught by Bigham for converting consolidated broadcast data to MPEG data on a RF carrier, **the motivation being** to route information, resulting in efficient transport of signaling traffic and interactive data and such a data can be transmitted through the air interface.

c) **In Regarding to Claim 9**: **Fawaz further disclosed** subsequent to determining whether one of the plurality of input data streams is exceeding its maximum data rate, the steps further comprise: moving the predetermined packet identifier from normal priority to low priority within a priority table *(see section[0080] in page 6: Alternately, the congested QoS Node can inform the source QoS Node to serve the aggregate SLA's at a lower rate).*

It would have been obvious to combine Fawaz and Bigham for the same reason as in Claim 8.

d) **In Regarding to Claim 10**: **Fawaz and Bigham disclosed** all aspects of this claim as set forth in claim 8.

Fawaz failed to explicitly disclose wherein the predetermined packet identifier is determined by: identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams.

Bigham clearly disclosed such identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams *(see Fig.3: block 142; and col.8 lines 1-21: MPEG packets having specific PID "packet ID" value for VIU "video information user").*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams throughout the network of Fawaz, as taught by Bigham for distributing video services over a greater serving area, **the motivation being** to provide video data to subscribers more efficiently.

e) **In Regarding to Claim 11**: **Fawaz further disclosed** the method further comprising the steps of:

determining if any packets are dropping; if packets are not dropping, and if a predetermined time has passed, changing any predetermined packet identifiers in low priority back to normal priority *(see section[0080] in pages 6-7: When congestion does occur on a QoS Node, the congested QoS Node sends a STOP message to the upstream QoS Node indicating that the upstream QoS Node should stop transmitting. After some time, the queue at the congested QoS Node empties and the now un-congested QoS Node informs the source QoS Node to start transmitting again).*

It would have been obvious to combine Fawaz and Bigham for the same reason as in Claim 8.

f) **In Regarding to Claim 12**: **Fawaz disclosed** a broadband delivery system for receiving and transmitting information signals, the broadband delivery system comprising:

a receiver for receiving a plurality of input data streams *(see Fig.8: block 404; in which, this classifier 404 would be considered as a receiver for receiving a plurality of input data streams buffering at input buffers 402)*;

an input port for receiving the plurality of input data streams *(see Fig.8: blocks 402)*, each of the plurality of input data streams having a plurality of packets identified by packet identifiers *(see the source and destination identifier of the packet in section [0051] in page 54)*;

a multiplexer coupled to the input port for providing a multiplexed output data stream *(see Fig.8: block 404; this block is a classifier/scheduler, but it would be considered as a multiplexer because it may use a statistical multiplexing method (see abstract))*;

at least one packet handler each coupled to the multiplexer, wherein each of the at least one packet handler receives and provides the multiplexed output data stream *(see block 406 in Fig.8)*; and

wherein the processor receives input from the control system defining a maximum data rate for each of the plurality of input data streams *(see w(1)...w(n) in Fig.3 and section [0007] in page 1: in which, the R(i) (i=1 to N) is considered as a maximum data rate for each of the plurality of input data Ds1-DsN)*, and wherein each of the at least one packet handler determines the data rate associated with each of the plurality of input data streams *(see section[0092] in page 7: whether the network can still support the rate requirements of all the Service Level Agreements "SLAs")*; and wherein the processor compares the data rate and the maximum data rate for each of the plurality of input data streams and determines whether one of the plurality of input data streams is exceeding its maximum data rate *(see section[0080] in page 6: a QoS Node in Fig.8 provides at least a minimum bandwidth for each SLA (input data stream). Still, the*

bandwidth provided is permitted to exceed the minimum, which could cause congestion in the input queues of other QoS Nodes); and

wherein if one of the plurality of input data streams is exceeding its maximum data rate, drops packets from the multiplexed output data stream; wherein the dropped packets correspond to a predetermined packet identifier associated with one of the plurality of input data streams *(see sections[0070] – [0072] in page 6: In accordance with SLA Early Discard, each SLA-k (k=1 to N) is assigned some integer weight M(k) (hence predetermined packet identifier), when a packet of SLA-k arrives at the QoS Node, the packet is accepted into the queue only if the number of packets for a particular SLA (one of the input data streams) in queue is less than M(k). If the number of packets in the queue for that particular SLA has reached or exceeded M(k). In ATM, packets are discarded solely on the basis of the source they are form, and regardless of whether other resources are required by other data streams, packets are discarded upon reaching a threshold for that source during a given time interval. In contrast, in this present, the packets are only discarded if they exceed a percentage of the aggregate queue (hence packets are dropped from the output multiplexed output data stream))*.

Fawaz failed to explicitly disclose a processor coupled to the multiplexer and the at least one packet handler for receiving and providing information regarding the plurality of input data streams; at least one modulator coupled to the receiver; and a control system coupled to the processor.

Bigham disclosed such a processor coupled to the multiplexer and the at least one packet handler for receiving and providing information regarding the plurality of input data streams *(see Fig.7: block 720 (processor) and block 740 (multiplexer))*; at least one modulator coupled to the

receiver *(see blocks RF Dig. Modulators 34 and MPEG 2 Bit Streams 28 in Fig.1)*; and a control system coupled to the processor *(see blocks Network Controller 36 and Network Data Processor 38 in Fig.1)*.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a processor coupled to the multiplexer and the at least one packet handler for receiving and providing information regarding the plurality of input data streams throughout the classifier/scheduler and congested SLA's of Fawaz, as taught by Bigham for controlling input data streams in a system in different data rates, **the motivation being** to provide video data to subscribers more efficiently.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such at least one modulator coupled to the receiver throughout the classifier/scheduler and congested SLA's of Fawaz, as taught by Bigham so that the modulator will include the MPEG data in the assigned digital channel slot within a particular bandwidth RF channel, **the motivation being** to provide video data to subscribers more efficiently.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a control system coupled to the processor throughout the classifier/scheduler and congested SLA's of Fawaz, as taught by Bigham in order to mapping information to the network control system, **the motivation being** to provide a service map information onto a downstream signaling channel properly.

g) **In Regarding to Claims 15 and 18**: **Fawaz and Bigham disclosed** all aspects of these claims as set forth in claim 12.

Fawaz failed to explicitly disclose wherein each of the at least one packet handler determines and flags a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams, and wherein the packet identifier is the predetermined packet identifier as recited **in Claim 15**; and

wherein the input data streams are MPEG data streams as recited in **Claim 18**.

Bigham clearly disclosed such identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of input data streams *(see Fig.3: block 142; and col.8 lines 1-21: MPEG packets having specific PID "packet ID" value for VIU "video information user");* and such MPEG data streams *(see col.7 line 66- col.8 line21: flexible MPEG addressing of incoming data streams).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such identifying a packet identifier corresponding to video packets within the plurality of packets associated with each of the plurality of the MPEG data streams throughout the network of Fawaz, as taught by Bigham for distributing video services over a greater serving area, **the motivation being** to provide video data to subscribers more efficiently.

h) **In Regarding to Claim 16**: **Fawaz further disclosed** wherein each of the at least one packet handler determines when the one of the plurality of input data streams is no longer exceeding its maximum data rate, wherein each of the at least one packet handler transmits all packets in the multiplexed data stream *(see section[0080] in pages 6-7: After some time, the queue at the congested QoS Node empties and the now un-congested QoS Node informs the source QoS Node to start transmitting again).*

It would have been obvious to combine Fawaz and Bigham for the same reason as in Claim 12.

12. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fawaz et al** (US Patent Application Publication No. **2003/0,133,406**) in view of **Bigham et al** (US Patent No. **5,544,161**) as applied to Claims 1-12 above, and further in view of **Taniguchi** (US Patent No. **6,222,841**).

Fawaz and Bigham disclosed all aspects of these claims as set forth in claim 12.

Fawaz and Bigham failed to explicitly disclose each of the least one packet handler further comprises:

a priority table, wherein the predetermined packet identifier is initially at normal priority within the priority table, and wherein if one of the plurality of input data streams is exceeding its maximum data rate, the predetermined packet identifier is moved to low priority within the priority table as recited **in Claim 13**; and wherein when the predetermined packet identifier is moved to low priority, packets associated with the predetermined packet identifier are not provided along with the multiplexed data stream as recited in **Claim 14**.

Taniguchi clearly disclosed such a priority table *(see Fig.1 block Table 03);* and when the predetermined packet identifier is moved to low priority, packets associated with the predetermined packet identifier are not provided along with the multiplexed data stream *(see Fig.1: block "Stream After Bit Rate Control" in the right of the figure, in which some of data streams are not multiplexed as indicated un-shaded blocks).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a priority Table and when the predetermined packet

identifier is moved to low priority, packets associated with the predetermined packet identifier are not provided along with the multiplexed data stream throughout the congested SLA's of Fawaz, as taught by Taniguchi for controlling input data streams in a system in different data rates, **the motivation being** to perform bit rate control using defined streams to subscribers more efficiently.

13. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fawaz et al** (US Patent Application Publication No. **2003/0,133,406**) in view of **Bigham et al** (US Patent No. **5,544,161**) as applied to Claims 1-12 above, and further in view of **Borazjani** (US Patent No. **5,719,876**)

Fawaz and Bigham disclosed all aspects of this claim as set forth in claim 12.

Fawaz and Bigham failed to explicitly disclose wherein each of the at least one packet handler is a field programmable gate array.

Borazjani clearly disclosed such a field programmable gate array *(see co.21 lines 18-21: FPGA).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a field programmable gate array throughout the Aggregate SLA's of Fawaz, as taught by **Borazjani** for multiple data distributions to appropriate subscribers, **the motivation being** to perform bit rate control using defined streams to subscribers more efficiently.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Ton whose telephone number is 703-305-8956. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms, can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

ATT
5/03/2004

KENNETH VANDERPUYE
PRIMARY EXAMINER